DOCUMENT RESUME

ED 143 934 CG 011 717

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TITLE The Self Concept: Mini, Maxi, Multi?
PUB DATE Apr 77
NOTE 29p.

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS Behavior Patterns; *Cognitive Processes; Elementary Secondary Education; Individual Characteristics; *Intelligence Factors; *Personality Assessment; Research Projects; *Role Perception; Role Theory; *Self Concept; *Theories

ABSTRACT

The main objective of the research was to define and dimensionalize the self concept. In a theoretical approach similar to the debates on the meaning of intelligence, this study attempted to determine whether the self concept is a general factor which explains more specific selves, whether it connotes a hierarchical structure, or whether it is best described in a taxonomic system. The findings suggest the last, with distinct self-perceptions emerging from a schema of minimal correlates. This model was examined in an educational setting, and the results were submitted to multivariate analysis. Theoretical considerations from Spearman, Thurstone, Cattell, Guilford, and Piaget comprise the foundation for the discussion on self-concept theory. (Author)

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THE SELF CONCEPT:

Mini Maxi, Multi?

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American Educational Research Association
-- New York City, April 1977

CG 011717

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Abstract

The Self Concept:

Mini, Maxi, Multi?

The main objective of the research was to define and dimensionalize the self concept. In a theoretical approach similar to the debates on the meaning of intelligence, this study attempted to determine whether the self concept is a general factor which explains more specific selves, whether it connotes a hierarchical structure, or whether it is best described in a taxonomic system. The findings suggest the last, with distinct self-perceptions emerging from a schema of minimal correlates. This model was examined in an educational setting, and the results were submitted to multivariate analysis. Theoretical considerations from Spearman, Thurstone, Cattell, Guilford, and Piaget comprise the foundation for the discussion on self-concept theory.

The Self Concept: Mini, Maxi, Multi?

Problem

The main purpose of the research was to determine the dimensions of the self concept. Is self concept a general component of personality which permeates self-identity and role expectations? Can self-perception be more fruitfully analyzed into primary factors contingent upon roles, situations, and areas of success and failure? Or is self more appropriately conceived in a multi-dimensional system?

Theoretical Framework

An analogy can be drawn to the long-standing debates on intelligence. Spearman (1927) initially developed a theory of intelligence as predominantly a generalized function, which he called the "g" factor. He believed that all individuals possessed this factor in various degrees and it was common to all mental activity. Spearman then postulated specific factors -- "s" factors -- which would be involved in different tasks. Therefore, the g factor provided the most crucial explanation of an individual's level of intelligence, and the s factors supplied the differential dimensions of the individual's level of mental functioning.

A second approach is suggested by Thurstone's "primary mental abilities" (1943) in that intelligence is believed to be an expression of several highly specific factors. These factors may be relatively independent of one another although experimentation has often revealed evidence for a basic general factor in addition to the semi-autonomous specific factors.

The third system of thinking provides a multi-dimensional model, as espoused by Thorndike (1927). He believed that intelligence consisted of highly specific processes and that, if a high degree of relationship is indicated among any of these processes, mental functioning on the basis of

common elements would be indicated. Some research seems to point toward perhaps 80 separate intellectual abilities with a possible 40 more as predicted by a comprehensive unified theory. Guilford (1959, 1968) suggests a taxonomic model, which conceptualizes a three-way classification involving operation or process, content or materials, and products by way of factor analytic methods. Cattell (1963) has taken this multi-factor view of the intellect one step further in distinguishing crystallized and fluid intelligence, wherein the former refers to perceiving relations via culturally acquired skills versus the individuation of learning experiences in the latter.

Piaget (1952) adds still another dimension to the formulation of intelligence. The organism's schemes for understanding the world increasingly become transformations carried out mentally without physical action -- i.e., "interiorized actions."

To extrapolate a set of principles which had been promulgated in one area of human knowledge to another with the expressed purpose of enlightenment, or at least explanation, is not without its dangers. (See Figure 1.) However, since the mental operations involved in developing a concept of self are similar to those involved in developing configurations, cognition, evaluative abilities, divergent thinking, and the like, the bridging process may not be as tenuous as one would at first believe. Hence, what might the published thinking indicate about the directional explanation of the self concept?

Research in self-perceptions to date (e.g., Purkey, 1970) seems to point in a unitary direction with the use of the term, "self concept," in a generic sense to explain successful classroom behavior (if the self concept is positive) and underachievment or failure (if the self concept is low or

negative). The literature bears witness to the continued analogy drawn from intelligence theory in the practical application of self-perception theory in such areas as "improving the self concept" (e.g., Schulman, Ford, & Bush, 1973), explanation of performance (e.g., Pettigrew, 1971), attempts to apply meaning to the self concept as a construct (Lowe, 1961), and development of a hierarchical model of explanation (Gage & Berliner, 1975, p. 410). The present research was, therefore, an attempt to clarify the issue by comparing various self-perceptions of individuals of various ages and development and in a variety of content areas of learning in order to ascertain whether self-perceptions tend to be distinct and discrete or interrelated.

Methodology

From a suburban school system, 698 students in grades one through twelve were randomly selected.

The subjects were administered the Affective Perception Inventory -- an instrument developed after the style of an earlier measure (Soares & Soares, 1969, 1975) -- which yields scores on self concept as a person, self concept as a student, self in various disciplines, and perceptions toward school.

Results

Multivariate analysis suggests distinct self-perceptions in all areas. The intercorrelations were low, the differences were significant, and the factor-clustering was distinct. These results were indicated regardless of the age of the respondents, although greater dispersion was observed with the older subjects.

Scientific Importance of the Study

It would seem that, regardless of age or stage of development, there may be little carry-over of the self concept to specific areas in the learn-

ing environment or of overlap among various self-perceptions -- suggesting independence of self-attitudes in various disciplines of the classroom and differential learning characteristics. Factor analysis provides greater depth into the dimensions of the self. As with the research cited supporting a taxonomic model for the meaning of intelligence, the present research results suggest independent factors for explaining self concept. Future research should proceed in directions beyond the classroom, studying structures and functions of the self and the integration of schematic re-organizations.

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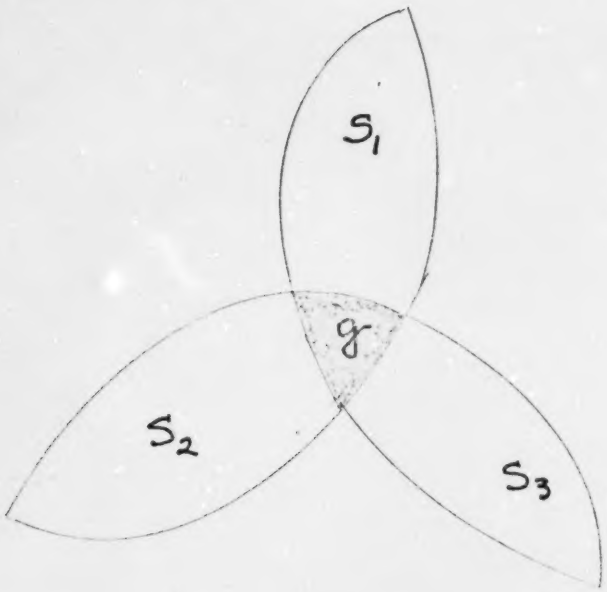
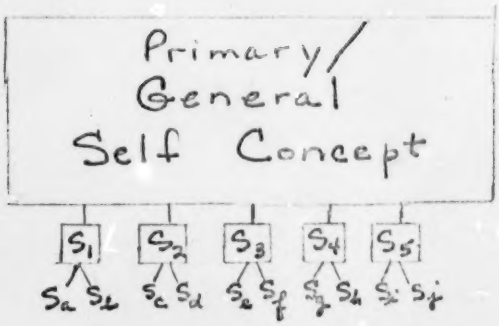
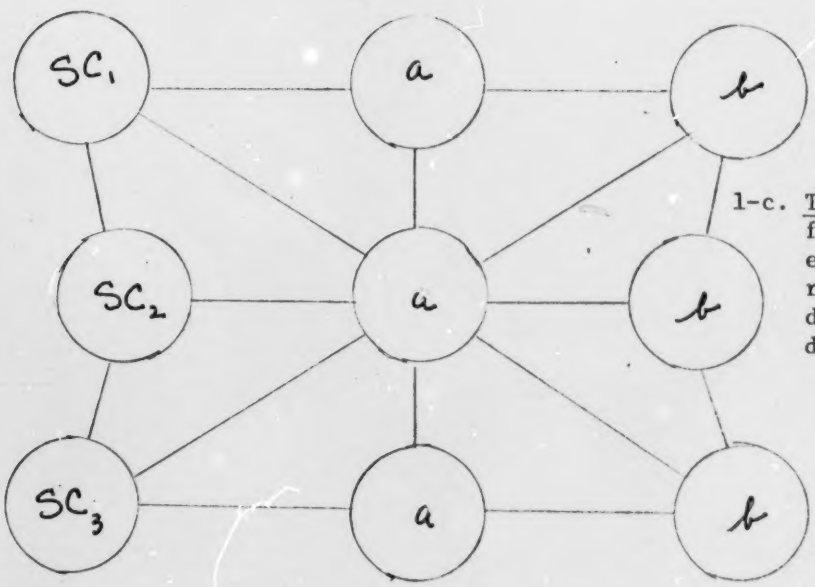


1-a. General Factor Model. The shaded area represents the general self concept. The remaining areas of the ellipses indicate the unique aspects of the individual self concepts.



1-b. Hierarchical Model. The general concept of self transcends behavior and attitudes toward the self at various levels of specificity.



1-c. Taxonomic Model. The classification of self-concept dimensions includes both schematic relationships and independently derived process (a) -product (b) differentiations.

Figure 1
Schematic Illustrations of Self-Concept Theories

Table 1
Intercorrelations of API Self-Ratings

Scale	Self	Student	Reading/ English	Math	Science	Social Studies	Arts	P.E.	School	Total
Self	1.00	.69**	.44**	.27*	.41**	.38**	.25**	.45**	.45**	.68**
Student	--	1.00	.66**	.38**	.55**	.49**	.42**	.35**	.61**	.83**
Reading/ English	--	--	1.00	.27*	.47**	.53**	.46**	.23	.59**	.76**
Math	--	--	--	1.00	.37**	.25*	.13	.24*	.40**	.54**
Science	--	--	--	--	1.00	.53**	.33**	.41**	.46**	.72**
Social Studies	--	--	--	--	--	1.00	.23	.29*	.38**	.64**
Arts	--	--	--	--	--	--	1.00	.21	.46**	.57**
P.E.	--	--	--	--	--	--	--	1.00	.35**	.54**
School	--	--	--	--	--	--	--	--	1.00	.81**
Total	--	--	--	--	--	--	--	--	--	1.00

* $p<.05$
** $p<.01$

Table 2
Analysis of the Repeated Measures of the
Self-Ratings from the Nine Scales (API)

Source of Variation	df	Sum of Squares	Mean Square	F Ratio
Subjects	436	243,615	--	--
Treatments	8	70,898	8862.33	88.48**
Error	2912	291,662	100.16	--
Total	3356	606,175	--	--

**$p < .01$

Table 3
Descriptive Analysis of API Scale Scores
(Form P/Grades 1-3)

Scale	Mean	S.D.	S.E.	Range of Actual Scores	Range of Possible Scores
1	12.89	5.17	.54	- 8 to +20	-20 to +20
2	9.19	3.18	.33	- 7 to +11	-11 to +11
3	8.74	4.16	.44	- 8 to +12	-12 to +12
4	9.86	3.67	.38	- 6 to +12	-12 to +12
5	7.30	4.03	.42	-10 to +10	-10 to +10
6	7.58	3.31	.35	- 8 to +10	-10 to +10
7	10.55	4.41	.46	- 9 to +15	-15 to +15
8	6.29	3.47	.36	-10 to +10	-10 to +10
9	12.70	3.42	.36	- 5 to +15	-15 to +15
Total	85.55	23.66	2.48	- 4 to+113	-115 to+115

Table 4
Descriptive Analysis of API Scale Scores
(Form I/Grades 4-8)

Scale	Mean	S.D.	S.E.	Range of Actual Scores	Range of Possible Scores
1	19.57	9.69	.73	-15 to +37	-40 to +40
2	16.97	10.18	.77	-14 to +37	-40 to +40
3	16.18	14.14	1.06	-24 to +40	-40 to +40
4	13.37	8.35	.63	-11 to +24	-24 to +24
5	10.91	7.88	.59	-16 to +20	-20 to +20
6	9.18	8.70	.65	-19 to +20	-20 to +20
7	17.88	13.75	1.03	-28 to +40	-40 to +40
8	10.47	8.63	.65	-18 to +20	-20 to +20
9	30.36	18.91	1.42	-42 to +60	-60 to +60
Total	140.62	26.78	1.51	-39 to+274	-304 to+304

Table 5
Descriptive Analysis of API Scale Scores
(Form A/Grades 9-12)

Scale	Mean	S.D.	S.E.	Range of Actual Scores	Range of Possible Scores
1	24.35	13.59	1.38	- 24 to + 49	- 50 to + 50
2	19.39	15.79	1.60	- 36 to + 46	- 50 to + 50
3	12.99	15.96	1.62	- 29 to + 43	- 44 to + 44
4	5.21	18.63	1.89	- 34 to + 34	- 34 to + 34
5	12.33	18.16	1.84	- 36 to + 35	- 36 to + 36
6	12.54	15.83	1.61	- 30 to + 36	- 36 to + 36
7	15.33	12.49	1.27	- 15 to + 36	- 36 to + 36
8	9.53	15.80	1.60	- 30 to + 30	- 30 to + 30
9	21.87	26.57	2.70	- 62 to + 68	- 68 to + 68
Total	129.79	98.55	3.29	-204 to +351	-384 to +384

Table 6
Means/Standard Deviations of Self-Ratings
(by Form/Sex/Scale)

Scale	Form P			Form I			Form A		
	Male	Female	Sig.	Male	Female	Sig.	Male	Female	Sig.
1	13.70/ 5.08	12.07/ 5.18		20.51/ 9.60	18.71/ 9.74		28.31/ 11.23	20.92/ 14.60	* *
2	9.22/ 3.59	9.16/ 2.73		15.71/ 11.00	18.10/ 9.29		21.31/ 14.78	17.73/ 16.57	*
3	8.41/ 5.00	9.07/ 3.10		14.14/ 15.18	18.02/ 12.93		13.02/ 16.51	12.96/ 15.63	
4	9.41/ 4.52	10.31/ 2.48		15.08/ 7.30	11.82/ 8.95	* *	9.76 19.22	1.27 17.33	* *
5	8.07/ 3.69	6.51/ 4.26	* *	13.17/ 6.41	8.87/ 8.54	* *	17.16/ 14.95	8.15 19.73	* *
6	7.83/ 3.09	7.33/ 3.54		10.83/ 8.82	7.68/ 8.37	* *	17.96/ 13.04	7.85/ 16.63	* *
7	10.37/ 4.74	10.73/ 4.09		15.94/ 15.34	19.63/ 11.95	* *	13.64/ 12.93	16.79/ 12.03	* *
8	6.67/ 2.77	5.89/ 4.07		13.81/ 5.86	7.46/ 9.59	* *	13.71/ 11.29	5.90/ 18.20	* *
9	13.26/ 2.05	12.13/ 4.36		29.37/ 21.68	31.25/ 16.08		26.07/ 23.26	18.23/ 28.85	* *
Total	88.28/ 22.75	82.76/ 24.48		148.46/ 70.61	141.14/ 65.99		161.16/ 92.35	109.54/ 114.34	* *

p <.05
*p <.01
=437

Table 7
Grade Differences of Students' Self-Perceptions
(Form P)

Scale	Means and Standard Deviations		
	Grade 1	Grade 2	Grade 3
1	15.26/4.15	10.94/5.98	12.09/3.92
2	10.14/1.63	8.79/4.09	8.30/3.21
3	10.17/2.35	8.67/4.26	6.35/5.31
4	11.09/1.70	10.24/3.63	7.42/4.75
5	8.69/2.61	7.88/3.67	4.35/4.88
6	8.11/3.25	7.76/3.07	6.52/3.63
7	11.43/4.82	11.33/3.38	8.09/4.31
8	6.86/3.04	6.61/4.20	4.96/2.64
9	13.14/3.08	13.08/3.65	11.35/3.34
Total	94.60/17.71	84.94/25.79	72.65/23.08

Table 8
Grade Differences of Students' Self-Perceptions
(Form I)

Scale	Means and Standard Deviations				
	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
1	20.97/10.92	22.53/ 6.99	18.21/10.40	18.05/10.73	18.89/ 8.19
2	16.58/11.40	18.73/ 8.71	15.10/10.41	19.21/ 9.61	15.54/10.35
3	18.12/15.21	18.03/14.26	16.38/14.70	15.55/13.60	13.38/15.26
4	15.06/ 8.36	14.00/ 7.19	12.87/ 7.82	14.71/ 8.06	10.49/ 9.58
5	12.85/ 6.93	12.23/ 7.82	10.21/ 7.67	11.50/ 7.60	8.24/ 8.77
6	10.00/ 9.86	11.00/ 7.77	7.95/ 7.80	8.89/ 8.96	8.54/ 9.10
7	20.45/12.97	19.13/11.53	18.69/12.89	16.74/12.55	14.89/17.68
8	13.76/ 6.08	13.53/ 8.16	11.23/ 7.68	5.79/ 9.43	9.08/ 8.96
9	37.79/17.36	34.43/17.46	31.56/18.04	26.79/15.16	22.81/22.74
Total	165.58/74.43	163.10/56.36	142.13/61.21	137.66/63.93	120.70/75.61

Table 9
Grade Differences of Students' Self-Perceptions
(Form A)

Scale	Means and Standard Deviations			
	Grade 9	Grade 10	Grade 11	Grade 12
1	23.64/ 13.41	24.16/ 12.39	26.17/ 15.20	24.86/ 15.18
2	19.51/ 15.03	21.76/ 12.85	14.58/ 21.60	19.10/ 17.07
3	11.85/ 14.35	16.48/ 17.00	9.17/ 21.75	13.14/ 14.08
4	4.44/ 19.39	3.36/ 19.19	11.17/ 15.43	5.43/ 18.76
5	12.85/ 19.74	13.44/ 19.26	16.00/ 13.94	7.95/ 16.12
6	12.64/ 16.36	12.96/ 18.38	12.00/ 14.27	12.14/ 13.28
7	18.85/ 11.80	17.76/ 10.56	11.17/ 12.98	8.29/ 12.79
8	10.13/ 15.29	9.16/ 16.22	7.08/ 16.17	10.24/ 17.02
9	14.51/ 33.69	29.80/ 18.61	27.67/ 25.64	22.76/ 15.77
Total	128.36/117.67	148.88/101.60	135.83/119.65	123.33/ 91.03

Table 10
API (Form P)
Analysis of Variance Results of Student Self-Ratings
--Grade/Sex
(Partial Summary Table)

Scale	F-Ratios		
	Grade	Sex	Grade X Sex
1	7.15**	2.57	.13
2	2.76	.01	.13
3	5.35**	.60	.31
4	8.45**	1.61	1.29
5	11.07**	4.36*	2.42
6	1.73	.52	2.01
7	5.16**	.17	.62
8	2.37	1.20	.99
9	2.51	2.56	.39
Total	6.83**	1.42	1.24

*$p < .05$
**$p < .01$

Table 11
API (Form I)
Analysis of Variance Results of Student Self-Ratings
--Grade/Sex

Scale	F-Ratios		
	Grade	Sex	Grade X Sex
1	1.35	1.53	.50
2	1.25	2.51	2.06
3	.68	3.36	1.22
4	1.90	7.28**	1.90
5	2.07	14.27**	.49
6	.68	6.00*	1.56
7	.93	3.34	2.68*
8	6.60**	29.99**	.62
9	3.73**	.47	1.67
Total	2.79*	.49	1.93

*p $<$ .05
**p $<$ .01

Table 12
API (Form A)
Analysis of Variance Results of Student Self-Ratings
--Grade/Sex

Scale	F-Ratios		
	Grade	Sex	Grade X Sex
1	.12	7.21**	.16
2	.55	1.20	.46
3	.67	.01	.43
4	.52	5.08*	.59
5	.62	6.04*	.30
6	.02	10.47**	.88
7	4.41**	1.68	.49
8	.14	6.21*	1.86
9	2.07	2.24	1.65
Total	.28	5.73*	.65

*p < .05
**p < .01

Table 13
Multivariate Analysis of Self-Responses
by Form, Sex, Grade and Scale
(Partial Summary Table)

Source of Variation	Form	df	F-ratio
Grade	P	2	8.54**
Sex	P	1	.62
G x S_1	P	2	.66
Scale	P	8	56.76**
S_2 x G	P	16	2.90**
S_2 x S_1	P	8	2.34*
G x S_1 x S_2	P	16	.95
Total	-	818	-
Grade	I	4	2.68*
Sex	I	1	.50
G x S_1	I	4	2.07
Scale	I	8	87.49**
S_2 x G	I	32	1.75**
S_2 x S_1	I	8	7.53**
G x S_1 x S_2	I	32	1.12
Total	-	1,592	-
Grade	A	3	.26
Sex	A	1	5.54*
G x S_1	A	3	.61
Scale	A	8	20.83**
S_2 x G	A	24	1.75*
S_2 x S_1	A	8	2.87**
G x S_1 x S_2	A	24	1.16
Total	-	872	-

*p < .05
**p < .01